

GENERAL OVERVIEW OF THE PROJECT “SYSTEMS FOR AERIAL SURVEILLANCE AND SECURITY”

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Abstract: *The current paper aims at providing a general overview of the project “Systems for Aerial Surveillance and Security” (SASS), designed under the auspices of the Erasmus+ Program and carried out by “Henri Coanda” Air Force Academy in collaboration with Polish and Bulgarian partners. The project proposed the initiation of uniform competences to be developed in employees of aviation, respectively, the design of a common curriculum/plan of study for pilots, air traffic controllers and air surveillance operators. The implementation of this curriculum was possible through the introduction of an on-line teaching/learning system based on an e-Learning platform. In order for the project to be achieved successfully, an assessment plan and a thorough analysis of results obtained after various stages were drawn. The analysis was done based on the feedback obtained from the main target groups of the project and was possible following two staff and students’ mobility stages that were completed with satisfaction questionnaires.*

Keywords: *Erasmus+ project; mobility; strategic partnership; communication*

1. INTRODUCTION

Whether we refer to national security, education or the economic environment, Eastern European countries have had to adapt their public policies and gradually reach the demands of the various international organizations. And all of the above mentioned situations have occurred under their desire to be part of different alliances, such as the North Atlantic Treaty Organization or the European Union. Accordingly, each of these countries has passed through and is still undergoing transformations that affect their own military structures. Armed forces have been restructured and have migrated toward professional armies. The next step, modernization of existing technical systems within military structures, was a constructive and desirable target for a better cooperation with the NATO.

Therefore, in order for all these aspirations to fulfill, it was, it is and will be necessary to:

- obtain new professional skills through new methods of personal development to use the new equipments and technologies in defense systems;
- apply teaching/ learning methods in the context of international cooperation between military academies and civilian universities;

– develop an appropriate psychological and moral behavior by accepting multiculturalism in the context of participation in different multinational and international missions.

Moreover, military education institutions have to assume the role of trainers of future military personnel in charge with maintaining peace and security.

Thus, the organization of military education institutions has to consider upgrading the concept of education and aligning it with the standards existent in the civilian education institutions. This is a painstaking process, which, at “Henri Coanda” Air Force Academy has started by designing a strategy for upgrading the educational endeavor. In the context of the AFAHC education’s opening to various European programs (EU 1288/2013; EC 2017), AFAHC has proposed a project aiming to develop a specific curriculum (plan of study) in cooperation with the War Studies University from Poland and “Vasil Levski” National Military University from Bulgaria, under the aegis of one of the European programs (Erasmus+).

In order to achieve the purpose of the project, the consortium of the 3 universities, united under the leadership of the (1) AFAHC, took into account the competences of each university: (2) War Study

University (WSU), through its professors, has a great experience in the field of safety and security at European level and experience in training civilian students to obtain specific skills, as future employees of various defense systems; and (3) “Vasil Levski” National Military University (VLNMU) develops curricula in the same areas of interest as the AFAHC in the field of aviation, traffic control and air space security.

Apart from these, the experience of MNU and WSU in training graduates both for military and civilian employers and labor markets, in these particular areas of expertise, can add value to this project.

2. SASS OVERVIEW AND ANALYSIS

2.1 Overview of SASS Project. From the point of view of the military universities the labor market is divided into: (1) The civilian labor market; (2) The military labor market, which undergoes continuous restructuring. Consideration needs to be paid to the fact that the military field and civilian life imply distinct activities and rules, more or less different air laws, subjected to military or civilian requirements.

The project started from the idea of standardizing the competences of military students (future pilots, ATCs, Radar and Air Defense officers) with the competences of the graduates of the civil universities in the same field of activity, namely, civilian aerospace schools for pilots and air traffic controllers. This aim took into account the specific regulations to each environment in which activities take place, either civilian or military.

Other aspects which were considered included: the amount of information and the speed of change of equipments and technology in any field of activity and eventually, the need for professional reconversion.

The activities were carried out over two years and focused on two main directions:

- designing a curriculum appropriate to the purpose of the project
- project evaluation through the mobility of staff and students. The periods of experience exchange were an integral part of the project.

The design of the curriculum (and the syllabus for each discipline) began by establishing the competences necessary for aviation, security and air defense specialists. The fact that the field of aviation, airspace management and security comprises many related specializations was taken into account in order to establish the necessary competences.

The project was designed to establish and to standardize the competences which the specialists in existing services on all airports need. These specializations are: ATC, radar and meteorology next to with the “pilot specialization.

The first phase of the project corresponded to its first objective: the members of the project team have developed a plan of study covering 6 disciplines and the teaching/learning materials to be designed under them were distributed to the three partner universities. Subsequently, the second phase of the project consisted of achieving a modern higher education teaching/learning system, namely, an e-Learning platform and a video-conference system.

Each of these two objectives was developed at two distinct levels, one destined to its accomplishment and the other one destined to its self-assessment.

Within the project, the work tasks were shared among the 3 universities. The task for each university, depending on the field of expertise, was to write/develop materials for 2 disciplines.

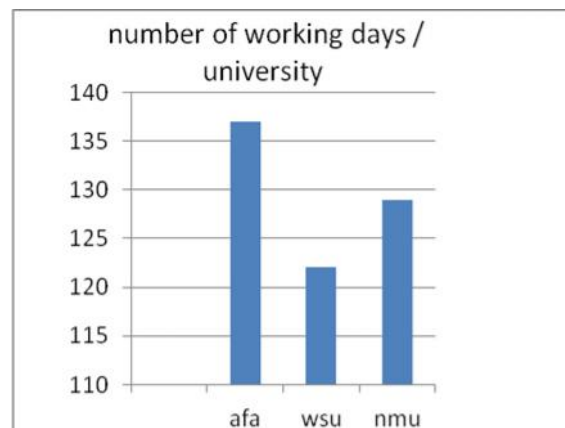


Fig. 1. Number of working days for each university

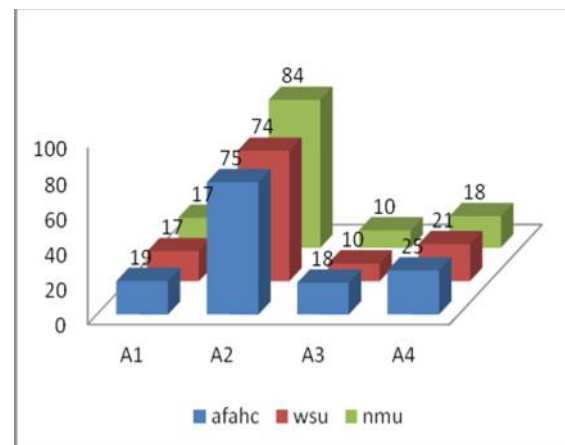


Fig. 2. Number of working days/ activity/ university

The graph in Figure 1 shows the total number of days allocated to achieving the final goal of the project, in each university. The graph in Figure 2 indicates the distribution of the days worked within the project, in each university for each activity. It is noticed that the calculation of the total number of days worked in each university leads to the conclusion that the work done was equitably divided, the three partners made an equal contribution to the project.

2.2 Assessment of the project’s outcomes.

The completion of the curriculum, the lessons related to each discipline in the plan allowed the transition to the qualitative evaluation stage of the achieved steps. The evaluation was done through mobilities of professors and students from the three universities. There have been 2 such internships. The first mobility took place in Poland and it was focused on the interaction between professors and students, throughout an interval of two weeks. Both professors and students assessed quantitatively and qualitatively the teaching materials of the first stage of the project, enriched with experiments/ simulations/ practical applications meant to help understand theory.

A special contribution to this internship has been made through the involvement of the final beneficiaries of this plan of study, labor market players. They offered the possibility of organizing a working day at a location specific to this area, one of the air bases, as well as the interaction between professionals belonging to various positions of their careers, each of whom had a personal perspective with regard to personal development.

The benefits obtained after the first mobility include, among others:

- the development of interpersonal and inter-social relationships among the participants to the accomplishment of the project;
- the creation of a data base enriched with suggestions and ideas for the further stage of the project;
- cultural exchange among the participant to the project, resulting from socializing activities.
- feedback from the final beneficiaries, employers in the field of aviation.

The feedback was achieved based on satisfaction questionnaires (based on Burgess design, 2001). The sample on which the satisfaction questionnaires were applied was formed by a number of about 100 people, the students participating in the first stage of exchange of experience and the guests invited to an event of dissemination of the intermediate results.

A higher percentage of respondents believe that the carrying out of such a curriculum can positively influence their career development.

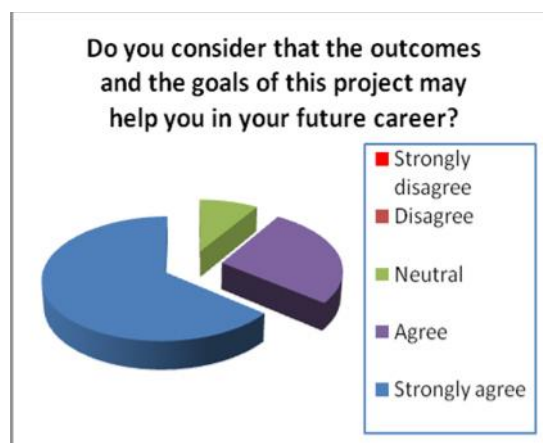


Fig. 3. Participants’ opinion regarding the design of a plan of study

As an intermediate conclusion: the purpose of the project, the accomplishment of a plan of study meant to offer a set of skills and abilities to the aviation employees is a favorable one. The opinion that such a plan may lead to an increased interaction among participants is shown in Figure 4.

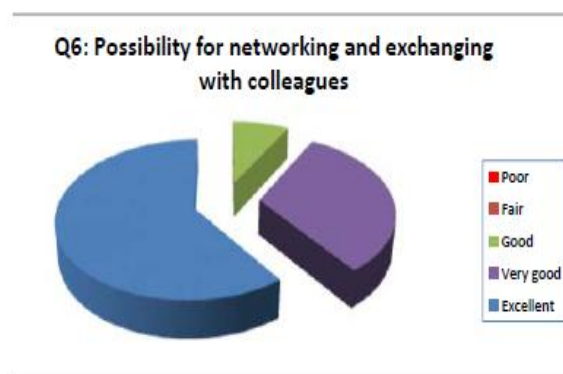


Fig. 4. Participants’ opinion regarding the objectives of the project

The second stage of the project consisted of developing an on-line learning system. It is mainly based on the e-Learning platform, which is broadly used in civilian universities. The implementation of this stage was followed by a new self-assessment that was carried out at the end of a “blended mobility” interval. There were two weeks for the mobility and another two weeks destined to on-line courses via the e-Learning platform. The satisfaction questionnaires were filled out at the end of the on-line courses and they indicated surprising results from the perspective of the platform use.

The students’ opinion with regard to the use of the on-line learning systems differed from the

professors' perspective. The former stated their opinion clearly that it is preferable for them to use the classical classroom teaching/ learning system. Its advantage would be that of the interaction with peers and professors.

Figure 5 (students) and Figure 6 (professors) show these opinions in order to be compared. The satisfaction questionnaire included the question "How easy is it to use the e-Learning platform of the SASS project?" and it offered five possible answers, ranging from 1 (strongly disagree) to 5 (totally agree) .

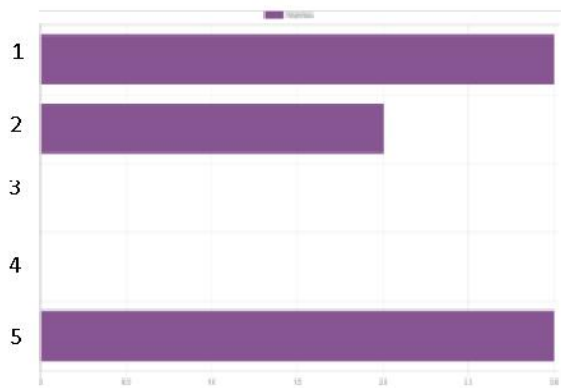


Fig. 5. Students' opinion



Fig. 6. Professors' opinion

3. CONCLUSIONS

Although the use of e-Learning platforms is not absolute novelty, it has been observed that military university education is rather reluctant to using it. The specificity of the three universities can be the cause of this phenomenon. Students prefer direct interaction as they stated it in their answers to the questions included in the satisfaction questionnaires.

The project managed to pave the way for common plans of study; it provided participants with the opportunity to work in teams, both in case of professors and students and it enhanced the cultural exchange due to the project team members belonging to three universities of three different countries.

3. ACKNOWLEDGMENT

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